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JOINT TOTAL ASSET VISIBILITY
A CATALYST FOR CHANGE IN LOGISTICS

by

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A Research Report Submitted to the Faculty

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Preface

The onslaught of the Information Age intrigues me. My previous 18 years in logistics always presented instances when I couldn't tell my bosses who had control of an item at any given moment, what was moving, where it was in the defense transportation system, when it would arrive at destination, and why I couldn't find out the information. While this was most often disheartening and frustrating to our customers, from the inside looking out, I was certain job security would never become an issue.

The arrival of the Information Age brings with it new and interesting areas of concern. Now, rather than having little to no information for a customer, the potential exists to become overloaded. This raises some tough questions. What information is needed? How do you get it? Who decides who gets which level of aggregated data?

The Office of the Secretary of Defense (OSD) Joint Total Asset Visibility (JTAV) office is tackling the phenomenal effort of integrating defense logistics information systems to provide the warfighter responsive logistics support. The issues integration brings forth are numerous, but more importantly, we must begin to understand that the availability of logistics information will reveal shortfalls in logistics practices and procedures that could be assumed in the past but were never validated with factual evidence. The analysis of these flawed processes brings with it the potential to correct current shortfalls and possibly to streamline logistics practices across the DOD. The

potential for reorganization in logistics prompted by the availability of information is the focus of this research.

I would be remiss if I did not mention that this paper requires a moderate degree of knowledge about current logistics systems. A reader with little to no logistics background might find the reading cumbersome and difficult. That said, should any reader become interested in finding out more details about what is stated herein, I would welcome any and all inquiries.

I would like to thank Mr Brian Shortell and everyone assigned to the OSD JTAV office for sponsoring this research. Although I was originally chartered to write JTAV doctrine, most interviewees recognized the potential fallacy of that requirement. Instead I have used their time and assistance in looking at the future of logistics through a JTAV lens. It is evident from my interviews that the JTAV office is composed of informed, professional, totally dedicated individuals determined to improve DOD logistics support to the warfighter. Additionally, I would like to thank Mr Tom Edwards of CASCOM for his frank and honest answers to my many questions. His foresight as a leader in logistics is unquestionable. Finally, I would like to thank my husband for his patience and his wealth of knowledge about the JTAV effort.

Abstract

Total Asset Visibility (JTAV) is a developing capability that will be the catalyst for major changes in logistics processes, procedures, and organizations in the future. JTAV is the capability to provide users with timely and accurate information on the location, movement, status, and identity of units, personnel, equipment, and supplies. It also includes the capability to act upon that information to improve overall performance of DOD's logistics practices. This study will describe what JTAV is and why it is being implemented within DOD. Next, JTAV will be discussed from a "what's it all about" perspective. Logistics organizations' roles and responsibilities will be reviewed and their association with and perspective about JTAV will be discussed. Ongoing DOD and joint logistics initiatives will be reviewed to assess their impact on current processes and procedures. These new initiatives, coupled with JTAV, will also be assessed in light of their potential impact on the future of logistics. Finally, as a result of the review of current logistics organizations, new logistics initiatives, and the implementation of JTAV, proposals for reorganization within the DOD logistics community will be made. Conclusions and recommendations for further studies complete this effort.

Chapter 1

Joint Total Asset Visibility—An Introduction

At the very least, better use of information represents one of the few remaining options for increasing the effectiveness of shrinking US military forces.

—Glenn Buchan

As defense budgets decline and military forces are pared to the minimum, the 21st Century will present challenges for the DOD heretofore untold. No DOD functional community will be exempt from the effects of the drawdown including logistics. It is imperative, therefore, that logistic agencies streamline their processes and procedures to more efficiently, effectively, and responsively support the warfighter as called for in Joint Vision 2010.

Joint Total Asset Visibility (JTAV) provides an immediate capability to oversee logistics processes and procedures as never before. It is *the logistics coup de maitre* that will bring the concept of focused logistics to reality by allowing greater combat capability to be applied when and where it is needed by the joint force commander while successfully minimizing the logistics footprint on the battlefield. Army doctrine states that the logistics system must “strike a balance of sufficient support to sustain operations throughout the peaks and valleys of their duration without burdening commanders with more support than is necessary to succeed.”¹ JTAV can help achieve this goal.

The Beginning

Before going any further, it is important to understand how JTAV became the focus of this paper. Initially, the OSD JTAV Office chartered this study as a means to develop fundamental doctrine for JTAV, thus complementing the ongoing efforts by the US Army's Combat Arms Support Command (CASCOT) to publish joint tactics, techniques and procedures (JTTP) for the in-theater JTAV module specifically being developed for support to the Commanders In Chief (CINCs).² It quickly became apparent that "fundamental doctrine" for JTAV was inappropriate. The reason is most easily explained by use of an analogy. JTAV capability can be compared to an F-15, and one would not write doctrine for an F-15. Rather, doctrine is written for the air superiority capability that the F-15 provides through its speed, maneuverability, and firepower. Likewise, JTAV provides the capability to see where bottlenecks exist and where improvements can be made in existing logistics, acquisition and financial management processes. Once the greater visibility over processes that JTAV provides can be assessed, doctrine for those disciplines should be modified.³ Therefore, the focus of this study changed and now rather than writing fundamental doctrine for JTAV, this paper will explain how JTAV can serve as the catalyst for future evolutionary changes in logistics organizations. The argument presented herein will validate the necessity for these changes if lasting improvements in logistics business practices are to be realized, and if providing faster, cheaper, more reliable logistics support for the warfighter is the ultimate goal of the DOD.

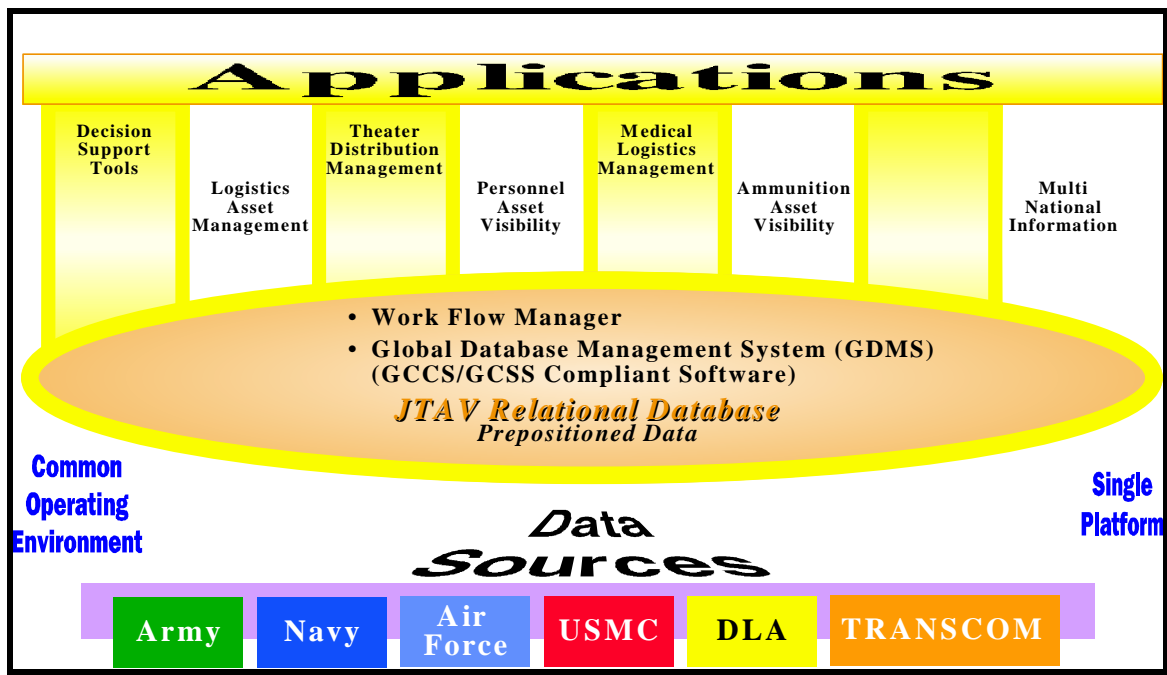
What Is Joint Total Asset Visibility?

The OSD Joint Total Asset Visibility (JTAV) Office is the office of primary responsibility for implementing the two distinct components of the JTAV program. The first component is the integration of data from a variety of existing logistics systems. Integral to this integration effort is the tasking to “identify the requirements for business rules as a part of the outcome of architectural analysis.”⁴ The second component is the development and fielding of an in-theater module of JTAV designed to support a regional combatant CINC in his theater of operations. Tackling this extraordinary effort involves the combined efforts of the personnel assigned to the OSD JTAV office who represent the four Services plus the Defense Logistics Agency (DLA), the Defense Information Services Agency (DISA), the Joint Logistics Systems Center (JLSC), and the United States Transportation Command (USTRANSCOM).⁵ Appendix A contains an organizational chart of the OSD JTAV office with assigned individuals by billet as of 6 November 1996.

JTAV, as defined by the DOD, is “the capability to provide users with timely and accurate information on the location, movement, status, and identity of units, personnel, equipment, and supplies. It also includes the capability to act upon that information to improve overall performance of DOD’s logistics practices.”⁶ JTAV provides information on assets in each of three categories:

- *in storage*—assets that are being stored at retail and wholesale inventory organic or commercial sites, and at disposal activities;
- *in process*—assets on order from DOD vendors, but not yet shipped, or in repair at intermediate-and depot-level organic or commercial maintenance facilities; and
- *in transit*—assets that are being shipped from origin (i.e., vendors, storage activities, or maintenance facilities) to destination (i.e., using units, storage

activities, or maintenance facilities). In transit assets include personnel and medical patients, in addition to unit equipment, end items, and supplies.⁷ This capability reaches across all logistics functional disciplines, processes, DOD components, levels of command and management, and into the commercial industry, in war and peace, resulting in an integration effort raising a multitude of unprecedented challenges. Figure 1 reveals the complexities of JTAV integration efforts.



Source: JTAV briefing slide 603-11, 23 February 1996

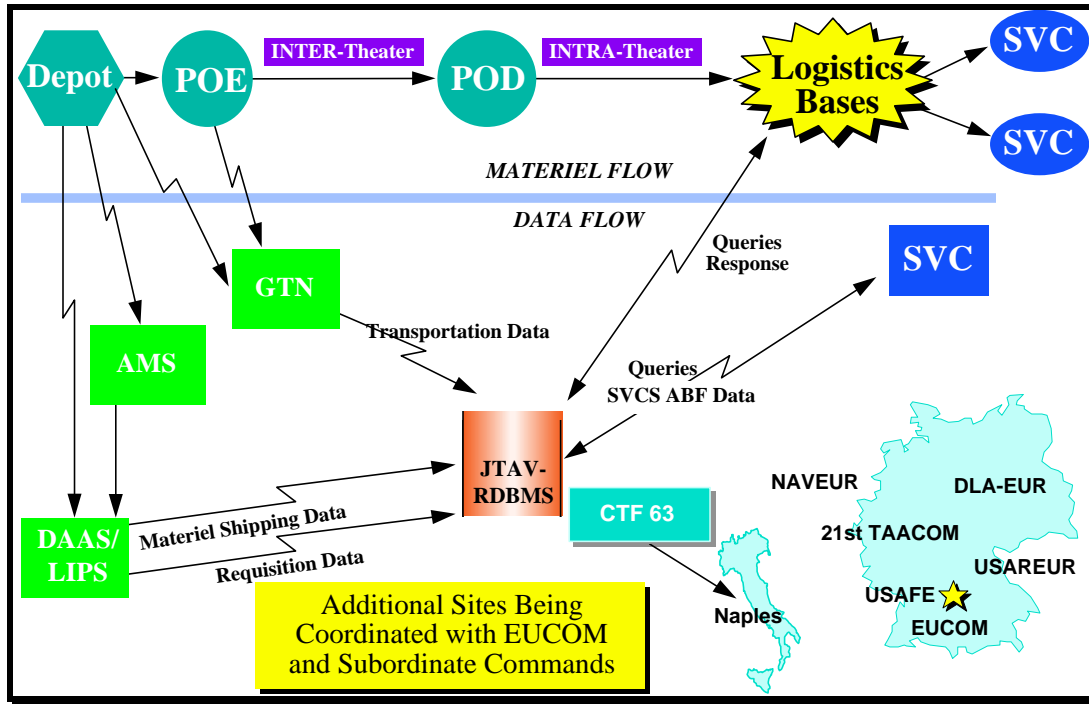
Figure 1. JTAV Objective Architecture

JTAV, the integration effort, consists of the linkage of and accessibility to multiple logistics databases which house source data information. A host of units and agencies generate source data which is captured in a variety of ways. Some data is manually input, while some is scanned using bar code technology. Others capture data using radio frequency (RF) tag and laser optical memory card technologies. OSD encourages the use of automation to eliminate human error and to speed processing and accountability actions. However, OSD has not finalized guidance on usage and integration of such

technology, as tasked to the Army as the DOD Executive Agency for Automatic Identification Technology (AIT). While there may never be a single technological solution, there should be a consistent approach for using various AIT capabilities, and a DOD standard for each type of capability used. The lack of an integrated approach has the potential to cause operational problems in the movement of items around the globe. Meanwhile, JTAV links the supply requisition and storage systems with transportation system information which then connects with information from within the destination CINC's AOR as cargo or passengers move from their arrival point in theater to final destination.

JTAV, the in-theater module, will provide logistics information and access to decision support tools for the combatant CINCs. JTAV will house information in an in-theater relational database management system which will provide the CINC/JTF Commander with visibility of individual or aggregated assets across Services lines. Today, individual Service supply information is available only to that Service. When operational, the in-theater JTAV module will provide each CINC visibility of assets: "in the hands of assigned units, in-transit to assigned units, on order by assigned units, in prepositioned war reserve stocks, theater level stocks, and national level stocks."⁸

The OSD JTAV Office is currently testing the JTAV prototype system in EUCOM in support of Operation Joint Endeavor in Bosnia-Herzegovina.⁹ Figure 3 shows the deployment concept for the JTAV in-theater module.



Source: JTAV briefing slide 667-11, 17 June 1996.

Figure 2. JTAV Deployment Concept

Why Does the DOD Need JTAV?

From early battles to the present, responsive logistics has been an issue for the warfighter. During Vietnam, thousands of unidentified, lost or unnecessary items flowed to the Southwest Asia theater just in case they were needed.¹⁰ More recently, the most common complaint heard during Operation Desert Shield/Desert Storm was the lack of intransit visibility (ITV) of items destined for the theater of operations.¹¹ With this in mind, is ITV important? Absolutely. It can provide the warfighter the capability to change the flow of items into and within the theater by redirecting, stopping, reflowing, or speeding the movement based on operational considerations.¹² In sum, ITV allows the commander visibility of items that are being pushed into the area of operations (AOR) such as subsistence, or pulled via the requisitioning system such as aircraft parts.

The integration of disparate logistics information mirrors similar ongoing efforts external to DOD. One of the major changes associated with successful commercial logistics enterprises in the 1990s is the progressive nature of state-of-the-art shared information databases from which decisions can be made at all management levels and across functional lines. For example, Federal Express recently used the Global Command and Control System (GCCS), DOD's Command and Control (C2) System for the 21st Century, as a model for restructuring the company's C2 system.¹³ The FEDEX system will "knit [information from] 48 departments in five major groups—flight operations, trucking-dispatch, freight and crew management, and ground operations—and will replace or integrate 38 different IT systems, most of which are mainframe-based and currently unable to "talk" to one another."¹⁴ This integration will provide decision-makers with a total view of the working departments to allow predictive forecasting in a dynamic environment. An example of such forecasting might be determining the potential impact on operations should a large percentage of the workforce in one department become simultaneously ill. In a shared information environment, personnel could be redistributed between departments based on training records and qualifications to ensure all departments successfully complete actions necessary to launch FEDEX's time-sensitive aircraft fleet.

What benefits does JTAV provide the CINC as well as other users of the system? Five benefits are of particular importance. First, JTAV provides visibility of on-hand stocks across the Services for assigned units, thus facilitating asset redistribution decision making. Next, JTAV provides a linkage between the supply and transportation communities by relating the supply document number to the transportation control

number to the national stock number, all on a single platform. Supply and transportation information currently resides in separate databases and is only available via discipline-specific computer hardware. Third, the CINC will have visibility of assets both en route to and retrograding from air/sea ports of debarkation, thus facilitating prioritization of movement and diversion of assets if necessary. Fourth, the CINC has in-the-box, i.e., container or pallet, item visibility provided by AIT technology, such as the Automated Manifest System and RF tags, which capitalize on rapid satellite communications capabilities. Finally, the CINC has the capability to receive timely and accurate information via the Defense Transportation Tracking System (DTTS) regarding the specific location of trucks, trains, or barges by means of military grid reference coordinates plotted on a map.¹⁵ In sum, JTAV provides the warfighter the information and tools necessary to effectively operate within the “dominant battle cycle time” on critical logistics decisions.¹⁶

The Road Map

Now that JTAV has been defined and the reader has a basic knowledge of what JTAV is, related areas beg to be explored. Chapter 2 will provide the reader a foundation for understanding the complexities associated with fielding the JTAV capability within the DOD. It will discuss the assigned and assumed roles and responsibilities of the Services and CINCs and contrast and compare how these organizations view JTAV. Chapter 3 will explain new logistics initiatives being pursued today across the Services, most of which are dependent on a robust JTAV capability for success. Chapter 4 will present the argument for several major reorganizations within

DOD, based on existing and future JTAV capabilities, that will allow DOD logisticians to finally divorce themselves from operations fraught with inefficient processes and practices. Chapter 5 will provide conclusions to the study and finally Chapter 6 will present recommendations for further study.

Notes

¹FM 100-5, *Operations*, 14 June 1993, 12-2.

²SES Brian Shortell, Colonel Dennis Lami, GS-15 Nancy Johnson, Colonel Vito Adocchio, CAPT Robert O'Donnell, GS-15 Jeff Crisci, GS-13 Joseph Cirrincione interviewed by author during visit to OSD JTAV Office, Alexandria, VA., 6-8 November 1996. This particular idea came from Mr Shortell.

³Ibid., Shortell, Lami, O'Donnell interviews.

⁴Deputy Under Secretary of Defense (Logistics), *Defense Total Asset Visibility Implementation Plan*, Logistics Management Institute Report LMI-PL306RD1 (McLean, VA:Logistics Management Institute, November 1995), 9-3.

⁵Ibid., 9-4.

⁶Ibid., 1-1.

⁷Ibid., 1-2.

⁸JTAV briefing slide 667-9, 17 June 1996.

⁹Cirrincione interview, 7 November 1996 and 4 January 1997.

¹⁰Paul G. Kaminski, Under Secretary of Defense (Acquisition and Technology), "The Revolution in Defense Logistics," *Defense Issues* 10, no. 107 (1995): 5.

¹¹James K. Matthews and Cora J. Holt, *So Many, So Much, So Far, So Fast: United States Transportation Command and Strategic Deployment for Operation Desert Shield/Desert Storm*, (GPO: 1996), 26.

¹²Ibid., 27.

¹³James Ott, "Federal Express Develops C3I-Based Information System," *Aviation Week and Space Technology*, November 23, 1992, v 137, n 21:57-58.

¹⁴Danna K. Henderson, "FEDEX Updates Tracking System," *Air Transport World* 30, no. 3 (March 1993): 48, subset of a master article by Joan M. Feldman, "Now, More Than Ever, Time Is Money."

¹⁵JTAV briefing slide 667-14, 17 June 1996.

¹⁶Deputy Under Secretary of Defense (Acquisition and Technology), *DOD Strategic Logistics Plan*, (Washington DC 22 June 1995): 1.

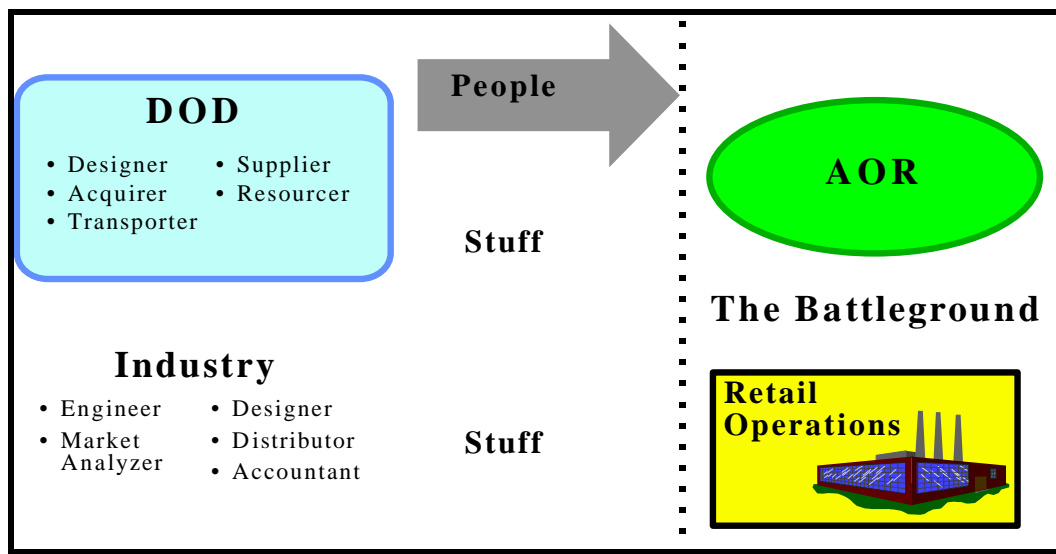
Chapter 2

JTAV—Integration and Implementation Issues

The nature of modern warfare demands that we fight as a joint team. This was important yesterday, it is essential today, and it will be even more imperative tomorrow.

—John M. Shalikashvili

The commercial world of logistics is changing daily by leaps and bounds, and generally changes in commercial logistics leads to changes in DOD logistics. Unfortunately, change is usually difficult and rarely accepted without some concern on the part of those affected by the change. Figure 4 compares commercial logistics to DOD logistics.



Source: JTAV briefing slide 637-7, 25 April 1996

Figure 3. Battlespace Vs Marketplace

The business functions of DOD and industry depicted in Figure 4 on the left appear relatively equivalent in nature, however, the end users on the right vary significantly. One particular difference is that while retail “combat logistics” are cyclical, i.e., based on holidays, seasons, etc., DOD wartime and contingency operations are less predictable, usually involve long lines of communication, and are subject to the timeliness of Congressional decisions for funding and mobilization support.

Another important aspect to remember about commercial industry is that one can expect to find a reasonable degree of homogeneity within a single company. For example, the previously discussed FEDEX C2 initiative resulted from the company, as a whole, being committed to the information reengineering effort. Such commitment is not as readily forthcoming for the JTAV effort within the DOD because, in essence, each Service is an individual company with individual leadership, corporate cultures, and funding. This leads to major disagreements about the methodology to be followed to achieve integration and the extent of the revisions that must be made to logistics business practices to provide a solid foundation for JTAV success. Although it can be assumed that no Service would dispute that benefits will be derived from JTAV, each becomes hesitant as perceptions of eroding sovereignty and lesser control of assets and holdings increase.¹

This then leads to a myriad of issues facing the OSD JTAV Office that require Herculean efforts to overcome. To identify them all would reach beyond the scope of this paper. Therefore, this chapter will limit discussion to the roles, responsibilities, and varying perspectives of the Services and the CINCs involved in or associated with JTAV implementation.

To familiarize the reader with concepts critical to the JTAV integration effort, it is important to understand some history behind the creation of the JTAV Office. JTAV resulted from an OSD Corporate Information Management (CIM) initiative in the mid 1990s. The OSD Logistics Business Systems (LBS) Office was organized under DUSD(L) to streamline logistics business process reengineering, select/develop standard systems, and foster data standardization within DOD. Two organizations were chartered to execute the CIM vision: the Joint Transportation Corporate Information Management (CIM) Center (JTCC) and the Joint Logistics Systems Center (JLSC).²

Before discussing the JTCC, it is appropriate to introduce the Global Transportation Network (GTN). The Commander-in-Chief of the United States Transportation Command, USCINCTRANS, as the DOD Executive Agent for ITV, formed a GTN office within the command to develop the capability to provide users real-time visibility of cargo or passengers moving in the USTRANSCOM system on common-user lift (see glossary). Although efforts were underway prior to Desert Shield/Desert Storm to field such a capability, accelerated development began following the Gulf War.³ A GTN prototype began testing in the field during redeployment from the Gulf War and the operational system is due to be fielded in April 1997. Full operational capability is expected by January 1999.⁴ GTN provides the ability to track items within the Defense Transportation System for the DOD the same way commercial industry multimodal carriers such as FEDEX track shipments under their control. Today, the intransit visibility information provided by the GTN prototype system can be considered the most advanced element of JTAV's three-part planned capability.

The JTCC, a directorate within USTRANSCOM, coordinates with the OSD Logistics Business Systems (OSD/LBS) Office to reengineer transportation systems under the CIM umbrella. In the 1995-96 timeframe, the JTCC reviewed and pared the 130-plus transportation systems used within the DOD to process, move, and track cargo and passengers, and ultimately selected 23 systems to feed into the GTN in-transit visibility database. GTN then feeds some, but not all, data elements into the Joint Operations Planning and Execution System (JOPES), the DOD's system for crisis and deliberate planning and deployment execution.⁵ The feed from GTN to JOPES provides in-transit visibility information to the joint planning community for classified JOPES deployments. All other movement information is available in the unclassified GTN database. As GTN matures, future modules will provide expanded command and control information for current operations, additional deliberate planning tools for future operations, and patient movement information.⁶

JLSC, on the other hand, has experienced slower progress. A GAO report released in February 1996 reveals that the Air Force expects to use commercial off-the-shelf software to improve depot-level information technology. Unfortunately, the tougher, DOD-wide, long-term movement toward uniform systems with standardized data, managed under the auspices of JLSC, are not to reach fruition for 5-10 years.⁷ This means the data providing in-process and in-storage visibility of material within the DOD will not be integrated for many years to come, if at all, and certainly not as quickly as ITV. As can be expected however, the CINCs want total JTAV capability today.

While Title 10, United States Code (U.S.C.) assigns logistics responsibility to the Services, joint doctrine authorizes combatant commanders to:

exercise directive authority for logistics (or delegate directive authority for a common support capability). The exercise of directive authority for logistics by a combatant commander includes the authority to issue to subordinate commanders directives, including peacetime measures, necessary to ensure the following:

- Effective execution of approved operations plans.
- Effectiveness and economy of operations.
- Prevention or elimination of unnecessary duplication of facilities and overlapping of functions among the service component commands.⁸

Directive authority is not meant to usurp the Services' responsibility for logistics. Rather, if exercised correctly, the two are complementary, ensuring greater operational effectiveness in wartime. A recent example of a CINC using his ability to improve OPLAN execution was CINCPACOM's decision to use CINC Initiative Funds (CIF) to pursue a systems integration effort that accelerates JTAV capability. The funding provides for the development of CINCPACOM's "force provider" integrated database. The CINC pursued and funded this initiative because JTAV visibility provides him oversight of unit readiness status today by capturing the data on property and personnel assigned to all units in all Services under his control. This information allows the CINC to assess his ACOM-assigned units for deployment readiness and availability in an automated fashion.⁹

Critical analysis at this point would lead one to ask several questions. First, does the slowness in fielding an OSD system justify a CINC using his own funds to field part of that capability? Does OSD want five geographic CINCs working independently on the same problem? Perhaps the more important questions are: "What can OSD do to field JTAV more rapidly? Does use of an Executive Agency for joint programs slow progress or possibly create an environment for a single agency perspective to drive crucial

decisions? Is OSD focused on consensus building at the expense of leading and directing efforts to support the warfighter?

The OSD JTAV Office continues to try to provide focus and direction to the JTAV effort, although assigned personnel recognize that one's view of JTAV depends on where one works. Interviews conducted with personnel from the OSD/JTAV Office, CASCOM, the Air Force, and the Joint Staff revealed, for the most part, varying Service perspectives. When each individual was asked whom JTAV served, the answer was always qualified. Wearing his/her OSD/JTAV Office hat, most interviewees (and the Joint Staff representative) stated that the ultimate user of JTAV was the combatant CINC.¹⁰ JTAV, from this perspective, was viewed as a force multiplier. On the other hand, when wearing his/her Service or Agency hat, the interviewees, with the exception of the USTRANSCOM representatives, modified their earlier answers by indicating that the business processes and rules developed and enforced by the Services and DOD logistics agencies were an equally important aspect of JTAV. From this perspective, JTAV was viewed as an enabler for streamlining logistics business practices. Ms Nancy Johnson, one of two JTAV Deputy Directors and the senior DLA representative in the JTAV office, offered that two prominent underlying themes prevailed during all business rule discussions with the Services. The first was the requirement for automated financial management transactions to ensure the Services paid one another for the transfer of supplies, and the second boiled down to the desire to retain logistics authority and control within the Service/Agency.¹¹

Mr Tom Edwards, now the Deputy Director of CASCOM, and previously the Deputy Director of the JTAV Joint Task Force, the precursor to the formal JTAV Office, believes

the Directors of Logistics at the unified commands or the JTF/J4s are the real JTAV customers. He maintains that much of the confusion over JTAV results from everyone's desire to be in charge. Considering the variations gathered to date, this conclusion appears to have merit. Additionally, Mr Edwards estimates that the CINCs spend 70 percent of their time on deliberate planning while commercial industry spends 70 percent of its time on execution - focusing primarily on timely cycles and improving information management. Mr Edwards maintains that the Services focus on day-to-day logistics execution due to their Title 10 responsibilities. He believes that the Services are only now beginning to tackle the management and organizational concepts and metrics that resemble industry-type standards that will ultimately improve DOD processes and information management systems to the level of today's leading logistics companies. The CINCs, on the other hand, currently do not have the mechanisms in place nor the manpower to cope with the responsibilities of day-to-day logistics.¹²

The role of the Services under Title 10, U.S.C., is to organize, train, and equip their respective forces for assignment to the combatant CINCs during operations as directed by the NCA.¹³ Logistics includes "the design, development, acquisition, storage, movement, equipping, distribution and evacuation functions of supply, field services, maintenance, health services support, personnel, and facilities."¹⁴ The Services, under the guidance of OSD, are revising the "business rules" that form the foundation for logistics support within and between the Services. The visibility of assets which will be provided by JTAV prompts a level of interservice cooperation previously unheralded. In the past, each Service tended to protect its assets, often to the detriment of another Service which might have a higher priority need or an operational requirement more urgent than the

owning organization. Visibility of needed items across Service boundaries did not exist, and visibility within Service lines was slow and cumbersome. JTAV will change that.

Shortly, JTAV will offer the ability to access information about each of the logistics disciplines, i.e., supply, transportation, maintenance, etc., across the spectrum of strategic, operational and tactical levels. The strategy and methodology used to control the potential power such visibility brings is being developed incrementally. An example of a strategic logistics issue might be an action handled by the Joint Material Priority Allocation Board (JMPAB), chartered to redistribute assets between CINCs and Services when shortfalls exist and priorities are equal, usually associated with contingency operations.¹⁵ Each agency including the Joint Staff will be able to quickly look across the Services to see where assets exist. The advantage the Board derives from JTAV is the reduction of preparatory time required to assess which Service owns what assets and where they are located. This is accomplished today in a manually intensive environment. Ultimately, the reallocation decision cycle time will be reduced with JTAV, yet still allow the Services the ability to present a case for retention of assets using the same data available to all concerned.

With the additional visibility provided by JTAV comes the need to refine processes that dictate the interservice redistribution of assets. Some experts posit that the DOD lacks industry standards that are needed for an accurate “system state” assessment.¹⁶ In fact, one of today’s limitations is that JTAV often only provides users information on a portion of the assets under a particular agency’s or Service’s control. The practice of limiting visibility of assets is often used by the Services to hide excess stockage of items in the supply system.¹⁷

Additionally, it appears that even though the Services and logistics agencies are preaching the necessity of and adherence to time-definite delivery philosophies such as Velocity Management and Lean Logistics, during execution they return to just-in-case stockage practices. A case in point is Operation Joint Endeavor. Relatively speaking, Bosnia is a small logistics operation when compared to an operation such as Desert Shield/Desert Storm. As such, it is reasonable to assume that if additional premium transportation capability such as expedited airlift capability was needed to move critical items to the theater in concert with the philosophy of just-in-time delivery, then such capability would be readily forthcoming. Instead, the Army doubled the basic requisition objective (RO) level for units deployed to this operation, and then authorized 200% fill of the new RO level.

From a supply perspective, new business rules will provide wholesale managers the “brokering details for releasing other Service retail repairable material,” hopefully luring all involved parties to adopt the just-in-time methodologies now being touted by the Services. Figure 5 reveals the Services’ initial negotiating positions as presented to OSD in August 1996.¹⁸ A close analysis reveals a continuing conservatism on the part of most of the Services for release of assets below requisitioning objective levels.

Comparative Service Negotiating Positions

	Army Jan/Feb 97	Navy July 97	Air Force July 97	Marine Corps Jan/Feb 97
Retail Information Systems Availability For Release Sites				
Wholesale Information Systems Availability % of Inventory at Negotiated Redistribution Sites	Jan/Feb 97 76% of Total Inventory	Dec 96 63% of Total Inventory	July 97 100% of Total Inventory	July 97 85% of Total Inventory
FAD Concerns	FAD Equity required for expansion below RO	FAD Equity required for expansion below RO	None	FAD Equity required for expansion below RO
CONUS Non-Tactical Sites	32 AMCISS Sites, 18 SABRS, and 4 ICPs -- Release above RO -- ** Release below RO for NMCS 01-03, 07, 08	33 worldwide sites and NAVICP -- Release above RO -- ** Release below RO for NMCS 01 only	177 AFB and 5 ALCs -- Release above RO -- Release below RO for NMCS 01-03, 07, 08	3 SMUs and ICP -- Release above RO -- ** Release below RO for NMCS 01 only
OCNUS Non-Tactical Sites	Excluded	Same as above	Same as above	Same as above
CONUS Tactical Sites	143 CONUS deployable -- Release above RO for NMCS 01	Excluded	Same as above	Same as above
OCNUS Tactical Sites	Excluded	Excluded	same as above	same as above
Reciprocity Required	** For Below RO, and above RO at Tactical sites, no assets released until other Services reciprocate	** For Below RO, no assets released until other Services reciprocate	Unconditional release Other Services are not required to reciprocate	** For Below RO, no assets released until other Services reciprocate

Attachment (5)

Source: Report on the Business Rule Negotiations for Interservice Redistribution of Retail Repairable Material, 15 August 1996, Attachment 5.

Figure 4. Service Negotiating Positions

According to Ms Nancy Johnson, distrust between the Services has always existed and most likely will continue for years to come. What the Services must grasp is that the

new business rules promulgated by OSD and instituted with JTAV provide for payment of items lateralized between Services. One Service cannot just take items from another and the past practice of bartering for items or hoarding limited resources must end with JTAV implementation.¹⁹

Colonel Bill Adocchio, the Air Force representative in the JTAV office, offers that today's culture will not be easily remedied when commanders are judged on readiness factors. As long as readiness is the standard of effective measurement, the commander is likely to maintain the "I'll have everything I can have" attitude.²⁰ The Services must move beyond the practice of withholding data to conceal assets from other users if JTAV is truly to provide *total* asset visibility and if the logistics system is to maximize savings within the DOD. Likewise, changes in current business practices and potential reorganizations and realignments of roles and responsibilities may be in order to ensure implementation and achievement of DOD streamlining objectives.²¹

In the meantime, concerns about information control and accessibility to information in JTAV remain. The JTAV Functional Architecture reconciles concerns about levels of user accessibility.²² What is necessary for the soldier in the foxhole to access from an information standpoint is not necessarily congruent with the needs of OSD, the Joint Staff or the CINC. Decisions on who controls what information in JTAV will be specified in the OSD business rules agreed to by the Services and the CINCs. It appears, however, that only years of cooperation under the new business rules will alleviate individual Service concerns.

For the foreseeable future, the Services will quite likely continue to focus on individual Service perspectives. OSD will have to promote the "single company FEDEX

approach” that results from efforts such as JTAV. Some would argue that it is OSD’s job to foster consensus between the Services.²³ That said, who is ensuring that the most efficient and effective logistics are available to the warfighter?

Notes

¹GS-15 Nancy Johnson, Deputy Director (DLA) JTAV, interviewed by author during visit to OSD JTAV Office, Alexandria, VA., 6 November 1996.

²GS-13 Joseph Cirrincione interviewed by author during visits to OSD JTAV Office, Alexandria, VA., 7 November 1996 and 4 January 1997.

³James K. Matthews and Cora J. Holt, *So Many, So Much, So Far, So Fast: United States Transportation Command and Strategic Deployment for Operation Desert Shield/Desert Storm*, (GPO: 1996), 28-29.

⁴Colonel Jack Pinnel, “Global Transportation Network: Program Overview & Status Update” , briefing slides and notes presented as a GTN In-Progress Review, 26 June 1996, 6. In addition, the author has first-hand knowledge as a USTRANSCOM-assigned action officer to the Command’s Crisis Action Team during the Gulf War with later assignment to duty in the GTN office.

⁵Colonel Jack Pinnel, “Global Transportation Network: Concept Overview/Demonstration,” briefing slides and notes presented to senior officials of the DOD/IG, 1 April 1996, 4,10. Also see Joint Publication 5-03.1, *Joint Operation Planning and Execution System: Planning Policies and Procedures*, vol. 1, 4 August 1993, GL-49.

⁶*Ibid.*, 5.

⁷United States Government Accounting Office, *Best Management Practices: Reengineering the Air Force’s Logistics System Can Yield Substantial Savings*, GAO/NSIAD 96-5, a report to the ranking minority member, Subcommittee on Oversight of Government Management and the District of Columbia, Committee on Governmental Affairs, U.S. Senate, (Washington D.C., Government Printing Office, 1996), 33.

⁸Joint Publication 4-0, *Doctrine for Logistics Support of Joint Operations*, 27 January 1995, I-6.

⁹Interviews with GS-13 Cirrincione, OSD/JTAV Office, Alexandria, VA., 6 Nov 1996, 4 January 1997 and Maxwell AFB, AL, 17 February 1997. Also see discussion about realignment of joint training responsibilities to CINCCACOM which affect force projection readiness in Dr. Don M. Snider, “The US Military in Transition to Jointness: Surmounting Old Notions of Interservice Rivalry,” *Airpower Journal* X, no. 3 (Fall, 1996):23-25.

¹⁰SES Shortell, Col Lami, CAPT O’Donnell, Col Vito Addochio, GS-15 Crisci, GS-15 Johnson, GS-13 Cirrincione, interviewed by author during visit to the OSD JTAV Office, Alexandria, VA., 6-8 November 1996. Also interviewed were SES-4 Thomas Edwards, Deputy Director of CASCOT; GS-15 Mike Brensy, Joint Staff/J4; and Capt Tom Butler, HQ USAF/LGTR.

¹¹*Ibid.*, Johnson, Crisci, O’Donnell interviews.

Notes

¹²Edwards interview.

¹³DOD Directive 5100.1, *Functions of the Department of Defense and Its Components*, 25 September 1987, 11-13.

¹⁴FM 100-5, *Operations*, 14 June 1993, 12-5.

¹⁵DODR 4110.01, *Uniform Materiel Movement and Issue Priority System (UMMIPS)*, and CJCS Instruction 4120.01, *UMMIPS CJCS Project Codes and Materiel Allocations During Crisis and War*, 24 January 1996.

¹⁶Edwards interview.

¹⁷Johnson interview.

¹⁸James B. Emahiser, Assistant Deputy Under Secretary of Defense (Material & Distribution Management) to the Assistant Secretary of the Army (Installations, Logistics & Environment, the Assistant Secretary of the Navy (Research, Development & Acquisition), the Assistant Secretary of the Air Force (Acquisition), and the Deputy Chief of Staff (I & L), USMC, letter, subject: Report on the Business Rule Negotiations for Interservice Redistribution of Retail Repairable Material, 15 August 1996, Attachment 5.

¹⁹Johnson interview.

²⁰Addochio interview.

²¹Edwards interview.

²²The JTAV Functional Architecture can be found at <http://204.255.70.40.80/TAVFA>.

²³General (ret) John Vessey, address to the Air War College, Maxwell Air Force Base, AL, 8 January 1997.

Chapter 3

New Logistics Initiatives

Our just-in-case system has evolved over the years in response to a cumbersome acquisition system, little or no in-transit asset visibility and lack of a fast and responsive transportation system. This system is in stark contrast to the just-in-time material management systems being implemented by commercial enterprises and our own industrial partners.

—Paul G. Kaminski

The constant barrage of information about third party logistics, outsourcing, privatization, and just-in-time activities is keeping logistics at the forefront of the news. Recent trends reveal that many corporations are divesting themselves of logistics responsibilities and reducing their workforce in order to concentrate on company core competencies. Besides their need to downsize, these companies recognize that they cannot afford the infrastructure costs associated with keeping in-house logistics capability.

The DOD seems to be placing greater emphasis on the importance of logistics even though logistics functions are being downsized. This emphasis is clear in both Joint Vision (JV) 2010 and the many Service initiatives that were in development even before JV 2010 was published. Because it is apparent that we can no longer afford to conduct business as we did in the past, the remainder of this chapter will describe selected Service logistics initiatives aimed at streamlining processes and procedures to produce maximum

effectiveness. Keep in mind that JTAV will provide factual information on wasted or unproductive time within these processes, thus providing the “hard evidence” needed to motivate those satisfied with the status quo to proceed with process improvements.

Focused Logistics

Focused logistics became a new buzzword within the DOD when the CJCS published JV 2010.¹ The question that must be answered is “what does focused logistics mean?” JV 2010 envisions the employment of agile, small combat forces, either joint or multinational in nature.² It describes focused logistics as “the fusion of information, logistics, and transportation technologies to provide rapid crisis response, to track and shift assets even while en route, and to deliver tailored logistics packages and sustainment directly at the strategic, operational and tactical level of operations.”³ The OSD JTAV office defines focused logistics as logistics which capitalize on speed, leanness, and agility. Focused logistics supports the most mobile operator when and where support is needed, and by necessity, is dependent on information technology for successful operations.⁴

Lt Gen John Coburn, the Army’s Deputy Chief of Staff for Logistics (DCSLOG), recently stated that logistics in the future need to be “focused and precise, based on situational awareness, characterized by nontraditional support concepts and shaped by the joint task force commander.”⁵ More importantly, however, Gen Coburn recognizes that dependency on information technologies and total asset visibility is of primacy to the effort.⁶ The magnitude of the technology effort becomes sharply focused when one envisions that the integration requires synchronization and coverage of the following

activities: joint deployment, rapid distribution, reduced inventories, third party logistics, multinational agencies, and proactive support.

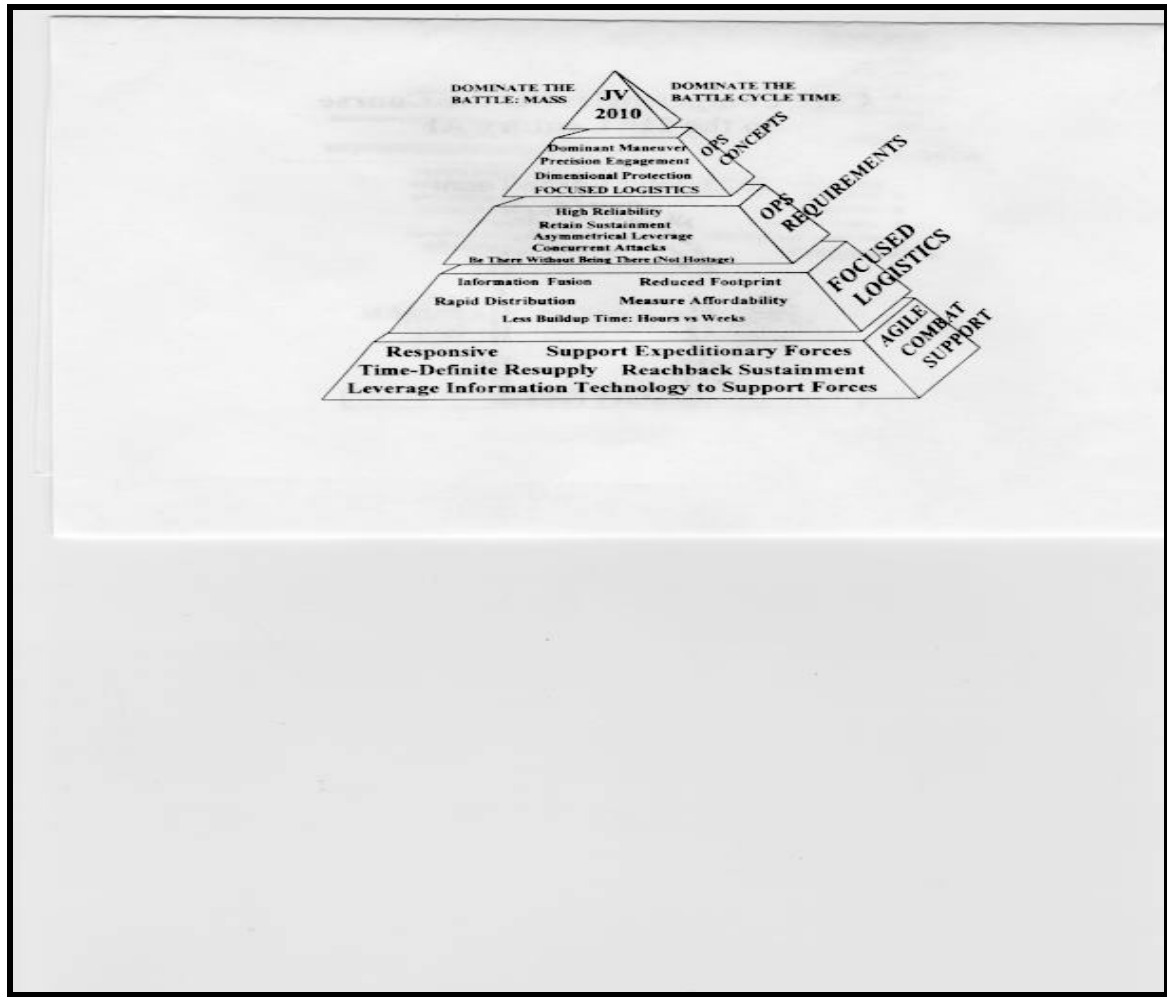
How to execute focused logistics remains the responsibility of the Services as assigned by Title 10. All are therefore stepping out with their own initiatives to improve logistics processes. Note the many similarities and the overlapping nature of these initiatives as they are described below.

Agile Combat Support

Following on the heels of the recently released JV 2010, General Ronald Fogleman, Chief of Staff of the Air Force, announced new Air Force core competencies. Of particular relevancy to this study is “agile combat support.”⁷ As stated earlier, one must ask what this phrase means. In essence, agile combat support provides a foundation for focused logistics, with both concepts emphasizing the importance of responsiveness and mobility on the battlefield. A briefing recently presented by Lt Gen Hallin, Air Force Deputy Chief of Staff for Logistics, described the relationship between agile combat support and the operational concepts it supports. In essence, agile combat support:

1. replaces massive deployed inventories with responsiveness
2. supports expeditionary forces
3. adopts time-definite resupply concept
4. uses [a] reach-back approach to permit fewer forward deployed functions and personnel, [and]
5. leverages information technology to support deployment and sustainment of forces.⁸

Figure 8 depicts the relationship between agile combat logistics, focused logistics, and the operations supported by these logistics concepts.



Source: Lieutenant General William P. Hallin, “HQ USAF/LG Perspective on Today’s Logistics Issues,” address to LOG 499/97-A Logistics Executive Development Seminar, Wright Patterson AFB, OH., 9 December 1996, 11.

Figure 5. Agile Combat Support Concept

Although responsive logistics support was always considered a necessary evil by operators, it was not necessarily considered a burning issue at the forefront of Air Force policy and budget battles. Rather, force modernization issues such as fielding the F-22 and the C-17 took precedence. However, by announcing agile combat support as a new core competency, Gen Fogleman emphasizes the renewed importance of logistics with the DOD leadership. He has reaffirmed that responsive DOD logistics is critical to success on the battlefield.

Lean Logistics

Within the USAF, Lean Logistics is a major logistics initiative. The objective of lean logistics is “to maximize operational capability by using high velocity, just-in-time processes to manage mission and logistics uncertainty in-lieu of large inventory levels—resulting in shorter cycle times, reduced inventories and cost, and smaller mobility footprint.”⁹[emphasis in original] To achieve this objective, the Air Force set three goals: reduce order and ship time, reduce uncertainty, and reduce variability. To attain these goals, lean logistics plans to capitalize on fast transportation, expedite processing and streamline maintenance activities in the depots, identify and rapidly return reparable, improve bit piece contracting, and improve asset visibility in the pipeline.¹⁰

Limited tests spearheaded by AFMC in 1995 proved that the USAF could “sustain operations with significantly fewer parts, “ although these tests were conducted on less than 1% of USAF inventory.” Expanded tests in 1996 focused on improving five business areas. The first was an effort to automate the requirements determination process to buy or repair assets based on actual demand versus doing so based on computed requirements. The second was an effort to automate stock control and distribution. Next was an effort to channel repair actions to whatever repair facility was best able to handle the requirement, be it contractor, in-house, or other. Next, was an effort to increase throughput of the overhaul and component repair processes with reduced inventory and costs. Finally, depot maintenance business areas refocused to measure repair cost versus output efficiency.¹¹

Integral to the achievement of these USAF goals, however, is the need for total asset visibility and standard business information systems. Lack of standard systems

development by JLSC will delay depot process improvements. Subsequent to the GAO report identifying the potential 5-10 year delay in providing these systems, the DOD rethought the issue and is now leaning towards a shared data environment rather than using standard systems.¹² However, the GAO's concern that management actions and associated funding requirements may be beyond the scope of the USAF remains valid.¹³

Balancing system efficiencies with the needs of the warfighter while improving logistics processes remains of paramount importance. Routine past practices such as batch processing and purchasing economic order quantities facilitated efficiencies within the depot but did not necessarily serve the customer well. While some of the attributes of these processes may remain in the future, improvements in supply inventory management strategies and policies, coupled with improved information management systems, will result in a leaner logistics system.¹⁴ Additionally, when finally implemented, information-rich lean logistics activities should provide for maximum effectiveness and efficiencies within each logistics process, improved support to the warfighter, and reduced costs.

Air Mobility Express (AMX)

In short, the AMX is an enhanced Desert Express concept. Desert Express was conceived during Desert Shield/Desert Storm when requirements to move high priority items for CINCCENT required extremely fast (less than 24 hours), reliable transportation. USTRANSCOM modeled Desert Express after commercial overnight delivery carriers and capitalized on the use of a commercial overnight lift to deliver items to Charleston AFB, South Carolina, for consolidation and onward movement by milair.¹⁵

AMX modifies the Desert Express concept by having a commercial carrier consolidate the shipment for movement by either commercial or military airlift. Dynamics Research Corporation, under contract to the USAF, completed a study in 1996 that developed comprehensive cargo sizing data needed by AMC and USTRANSCOM to develop funding and contractual strategies for procuring services from the commercial sector. The study used the two MRC scenario for its baseline. The results indicated a need for 3.3 aircraft per day to fulfill projected movement requirements. In comparison, Desert Express started with one airframe per day and eventually expanded to two.¹⁶ The key to the success of AMX however, is the ability to marry the airlift movement arrival at the aerial port of debarkation (APOD) with the Army's Battlefield Distribution concept for expedited delivery to the ultimate consignee, regardless of the consignee's location in the AOR.

Battlefield Distribution

Battlefield Distribution (BD) is an Army initiative designed to be a force multiplier. By definition, BD is "a holistic system (strategic through tactical) of information exchanges, management procedures, functional designs, and reengineered operational process which enable U.S. Forces to properly request, receive, redirect, track, distribute, control, and retrograde material, facilities and services within a single distribution system."¹⁷ BD is designed to support any type of operation from MOOTW to a MRC using a conventional corps structure with supporting echelon above corps (EAC) structure which can be tailored to support any size operation.¹⁸ BD envisions maximizing support within the combatant CINC's theater of operations by monitoring operations and

requisitions and pushing sustainment and materials to the forward units using historical data and ops tempo as gauges. BD's goal is to "fill mission oriented demands within 72 hours." ¹⁹

BD relies heavily on integrated information systems and automated technology to provide source data information and to provide oversight of in-theater stocks, improve visibility of unit locations on the battlefield, provide near real time asset visibility, increase velocity of movement and permit the exploitation of diverting assets when required. Information systems support provides the logistician "Situational awareness coupled with asset visibility within a seamless information flow...to effectively sustain current operations while simultaneously preparing for future operations." ²⁰

BD also depends on a theater logistics force opening package to deploy rapidly and establish terminal distribution activities and service operations to keep material flowing out of the APODs and Sea Port of Debarkation (SPODs) and into the AOR. The size of this package is still undetermined, but conceptually it will be modularized to facilitate tailoring based on situational needs. ²¹

Velocity Management

Velocity Management (VM) focuses on process improvement. The idea is to manage velocity within the processes to maximize efficiency of the system and effectiveness for the warfighter. VM "aims to substitute velocity and accuracy for mass in the logistics system." ²² In short, reducing cycle times reduces the necessity for large amounts of stocks being retained which ultimately clog the system. The underlying assumptions of VM are that inventories have become more expensive to buy and store while

transportation has become cheaper and more reliable on a worldwide basis. In essence, VM and lean logistics share the same goals. One interesting difference is that the proponents of VM believe that “a senior-level coalition is needed to guide and support the implementation of VM, “ because the effort “spans multiple functions of supply, maintenance, transportation, and organizational boundaries spanning USTRANSCOM, DLA and Army Material Command.²³ In other words, VM is a multi-Service, multi-functional effort.

Combat Logistics Force

Naval logistics is undergoing changes just as changes are being made in the Air Force and the Army. Historically, a carrier battle group was serviced by a station ship, a vessel that traveled with the group for replenishment purposes, and a shuttle ship which moved between groups and provided supplies from fixed resupply points by shuttling to and from the battle group. The newest concept in the evolving use of combat logistics forces potentially eliminates the station ship and envisions greater use of the shuttle ships and vertical resupply by helicopter.²⁴ The rationale for such a change is a new operating environment where battle group operations are becoming rare and post Cold War responsibilities such as the Partnership For Peace and liaison missions with the Russian Navy are on the increase.

Navy maintenance will remain a three tiered system for the foreseeable future, but changes can also be expected in how maintenance will be handled. Organizational maintenance will remain the responsibility of the ship's using unit. Intermediate maintenance is a step beyond the organizational level that must be acted upon by the

capability available on a carrier or a tender. Finally, depot maintenance requires skills beyond those at the “O” or “I” levels, and is performed in shipyards, aviation depots and commercial facilities.²⁵

Intermediate level maintenance is experiencing changes. In the Mediterranean for instance, there was previously one submarine tender and one surface tender. There is now one tender ported in Sardinia, and fly-away teams are now used. Teams were previously stationed in the CONUS, however to improve response time the Navy is looking at several deployed location sites.²⁶ Once again, force reductions and changes in the operating environment are forcing changes in logistics business practices in the US Armed Forces.

Notes

¹Joint Vision 2010, 1996, 1.

²Ibid., 8-9, 31.

³Ibid., 24.

⁴The International Institute for Strategic Studies, *Strategic Survey 1995-1996*, (London: Oxford University Press, 1996), 30-32.

⁵Lt Gen John G. Coburn, Army Deputy Chief of Staff for Logistics, “Focused Logistics - Projecting and Sustaining Army XXI,” *Army*, October 1996, 127.

⁶Ibid., 128.

⁷General Ronald R. Fogleman, chief of staff, US Air Force, “Strategic Vision and Core Competencies,” address to the Air Force Association Symposium, Los Angeles, CA, 18 October 1996.

⁸Lieutenant General William P. Hallin, “HQ USAF/LG Perspective on Today’s Logistics Issues,” address to LOG 499/97-A Logistics Executive Development Seminar, Wright Patterson AFB, OH., 9 December 1996, 6.

⁹HQ USAF/LGM2, *USAF Baseline Lean Logistics Master Plan and Road Map*, Version 4.0, 31 January 1996, 2.

¹⁰Ibid., 2-6.

¹¹United States Government Accounting Office, *Best Management Practices: Reengineering the Air Force’s Logistics System Can Yield Substantial Savings*, GAO/NSIAD 96-5, a report to the ranking minority member, Subcommittee on Oversight of Government Management and the District of Columbia, Committee on Governmental Affairs, U.S. Senate, February 1996, 31-32. Also, see an example in *Q Vision*, Winter 1996, p9.

Notes

¹²Cirrincone interview update, 18 Feb 97.

¹³GAO, 34.

¹⁴Lean Logistics Master Plan, 12.

¹⁵Author was assigned to USTRANSCOM/J3-4 at this time and participated in meetings to develop the Desert Express concept.

¹⁶Jack R. Coley and Dana L. Hill, *Air Mobility Express (AMX) Air Force Airlift Requirements*, Dynamics Research Corporation Systems Division Report, Contract No. F49642-95-D-0017, (Andover : MA, Dynamics Research Corporation, 30 September 1996), v-xv.

¹⁷U.S. Army Combined Arms Support Command, "Battlefield Distribution Draft Concept," final draft, 10 April 1995, 1.

¹⁸*Ibid.*, 3.

¹⁹*Ibid.*, 5.

²⁰*Ibid.*, 8.

²¹*Ibid.*, 7.

²²John Dumond, Rick Eden and John Folkeson, *Velocity Management :An approach for Improving the Responsiveness and Efficiency of Army Logistics Processes*, RAND Documented Briefing MDA903-91-C-0006 (Santa Monica, CA.: RAND Corporation, 1995), v.

²³*Ibid.*, vi-viii.

²⁴Rear Admiral D.E. Hickman, SC, USN, Director, Supply Programs and Policy Division, N41, CNO, "Naval Logistics," address to LOG 499/97-A Logistics Executive Development Seminar, Wright Patterson AFB, Oh., 9 December 96, 16.

²⁵*Ibid.*, 21.

²⁶*Ibid.*, 23.

Chapter 4

Proposed Logistics Restructuring and Reorganization

The increased emphasis on joint and multinational military operations and the use of shared information systems means that solutions to many information-related problems are going to be beyond the control of any single service.

—Glenn Buchan

Should global logistics be considered less strategic in nature than global transportation? Does commercial industry consider transportation a subset of “distribution”? Is “distribution” a subset of logistics? Why does DOD create separate disciplines rather than viewing them as integral functions? Do the lines of separation help or hinder efforts to reengineer processes that have rippling effects from the employment by the warfighting CINCs to production within the industrial base of the United States? Is it time to rethink US laws, military doctrine and organizational structures to maximize logistics support to the warfighter? Can process reengineering as it is currently being implemented by each Service maximize efficiencies for the DOD and provide optimum effectiveness for the warfighter?

If there is a case to be made for jointness within the military, it is to be made in the logistics and support disciplines. Logistics processes and functions across the Services are inextricably intertwined on a day-to-day basis, in both peacetime and wartime. Today within the DOD, the Services now share depots for maintenance purposes; they train

jointly where it makes sense to do so; DLA handles supply items common to multiple Services; and USTRANSCOM's original wartime-only charter now reflects its responsibility for providing common user transportation in peace and war as well as its responsibility for DOD traffic management.¹

Why are all these changes taking place? A common view is that the DOD can no longer afford the Services' stove-piped ways of doing business that was prevalent in the 1980s. Today's restrictive budget environment does not allow for such specialization. The fact that combat forces receive about 35% of the budget while the support forces and infrastructure consume 65% should pinpoint where much of our reduction effort should be focused.² The US also fights jointly, and when the CINCs' powers were strengthened under the 1986 Goldwaters-Nichols Act, their voice in logistics issues began to carry greater weight. Now, effective support to the joint warfighter requires joint *support* operations.

RAND recommended that DOD adopt a strategy of focusing the entire system on meeting the customer's needs.³ This is next to impossible to accomplish if there is no consensus on who the customer is. This is also next to impossible to accomplish if there is not a single agency in charge of leading the effort. The result is the duplication of Service efforts such as Lean Logistics and Velocity Management; programs designed to effect the same result which have duplicative overhead and oversight costs.

The GAO identified obstacles that could prevent the Air Force from realizing maximum benefits from initiatives such as Lean Logistics. Specifically, the GAO stated "some of the biggest gains available to the Air Force, such as improvements to outdated and unreliable inventory data systems, require management actions and funding decisions

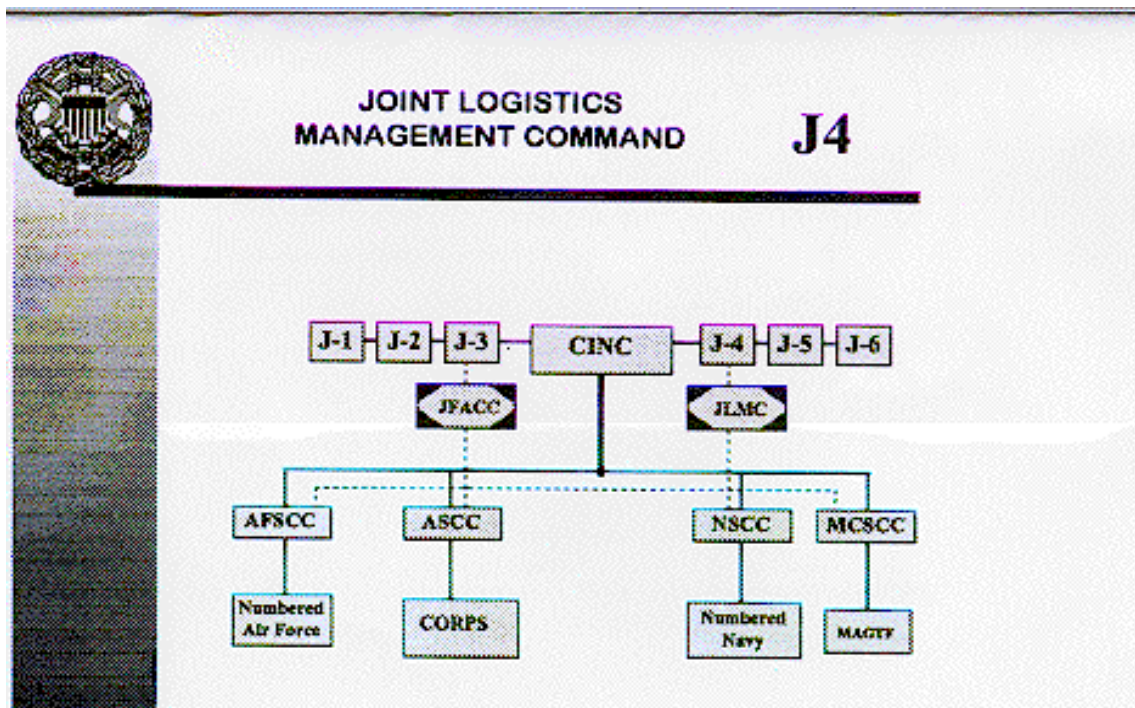
that must be made outside the responsibility of both Lean Logistics managers and the entire Air Force.”⁴ What agency is responsible for such actions?

The concept of adopting a single DOD logistics CINC (CINCLOG) is analogous to the creation of USTRANSCOM in 1988. A major reason for the disjointed nature of the deployment process resulted from the multitude of agencies handling transportation requirements prior to 1986. Although deployment planning was the assigned responsibility of the Joint Deployment Agency (JDA), the agency had no authority to direct a CINC to comply with actions required for successful deployment execution. Additionally, the Services had individual responsibilities to provide common user lift assets, a process that was not easily or successfully coordinated when most needed during times of crisis.

“A revolution in military affairs (RMA) occurs when new technologies are incorporated into a militarily significant number of systems which are then combined with innovative operational concepts and new organizational adaptation to produce quantum improvements in military effectiveness.”⁵ The RMA in DOD transportation and deployment processes occurred with the creation of USTRANSCOM. Desert Shield/Desert Storm validated the fact that having wartime-only authority to coordinate the movement of deploying forces detracted from the peace-to-war transition process. What is important to highlight however, is the fact that the users of these processes, particularly the warfighting CINCs, had one organization to turn to if they experienced problems or cared to make recommendations for improvement to the deployment process. Had this single “belly button” not been created, the less than glamorous experiences of the days of JDA would remain with us today.

An effective transition from peace to war is also needed for logistics agencies within a CINC's AOR. The creation of adhoc wartime theater logistics organizations to execute joint logistics requirements , as exemplified by with the creation of 22nd SUPCOM during the Gulf War⁶, detracts from a smooth transition by introducing unknown and untested layers to the logistics infrastructure. While Army doctrine⁷ promotes the use of adhoc organizations it appears that codifying a joint logistics command arrangement and using the capability offered by JTAV would greatly enhance combat effectiveness and reduce turmoil associated with wartime operations.

The need for alternative logistics C2 concepts surfaced during 1996 Naval Logistics 2005 Wargame.⁸ Alternatives were discussed during a CASCOM-sponsored conference in December 1996, where the Joint Staff J4 presented five organizational options for theater level logistics. The options were: (1) adapt a Service organization under the CINC; (2) adapt a Service organization under the Service Component Commander; (3) restructure the J4; (4) form a new Joint Command; or (5) form a Joint Logistics Management Center (JLMC)."⁹ Pros and cons were presented for each option with the J4 recommending option 5. In this case, the JLMC, composed of up to nine cells, would be considered on a level equivalent to the JFACC.



Source: Also addressed by LTG John Cusick, Director for Logistics, the Joint Staff, in his opening remarks to the Joint Logistics Integration Offsite sponsored by CASCOT, Ft Lee, Va., 2 December 1996.

Figure 6. Proposed Joint Logistics Management Center

These ideas are new and exciting but bring with them a myriad of issues that must be addressed such as command authority, force structure, manning, and limits of control and authority. The issues will not be easily resolved but it is easy to see the need for a fusion point between strategic logistics operators e.g., DLA, GSA, USTRANSCOM and theater-level logistics organizations who interface between the strategic and tactical levels of operations.¹⁰

On a global scale, is there or should there be a single belly button to push for the integration of all logistics processes and efforts? If LTG Cusick, the Joint Staff Director for Logistics, envisions the need to fuse logistics functions in a JLMC to provide focused

logistics to the warfighting CINC, is there not a need to bring that same sense of fusion to the wholesale/macro level of logistics? Considering the fact that JTAV's integration of existing databases will potentially change who does what to whom at the retail supply level, as well as providing visibility of information from a macro/wholesale perspective, which can ultimately affect production within the industrial base, is there not a similar need for a single agency to bring focus and direction to efforts of such monumental impact and potential?

Former USCINCTrans General Robert Rutheford was once asked to reflect on USTRANSCOM's success. In doing so, he succinctly provides a superb argument for the establishment of a CINCLG:

As a unified command, we can deal with the other CINCs who are our customers on an equal basis, on the same level of organizational structure. That equality, I think, makes possible timely and effective strategic mobility. If we became an agency, like the Defense Logistics Agency (DLA), I think we'd go off and concentrate on the business side of the house more and more. We would be further removed from the CINCs' warfighting concerns and consequently, we would no longer serve them successfully. Strategic mobility would lose its visibility and influence, to the detriment of national security, if USTRANSCOM became an agency vice a CINCLGdom."..."we were formed because of readiness concerns, not because of business concerns. It's only as budgets have become tighter that we've started to take on business-related issues. Let us remember why there is a TRANSCOM, what our core mission is. I think, in effect, we were an agency once before, the Joint Deployment Agency (JDA). We were unsuccessful as an agency, that is why we have a TRANSCOM today.¹¹

Naysayers against consolidation and jointness fear the phenomenon of group-think. Former Secretary of the Navy John Lehman, one such naysayer, addressed this concern after the passage of the Goldwater-Nichols Act, when he posited a belief that a unified Joint Chiefs of Staff diminished "creative tension between the Services."¹² Those

adverse to jointness would argue against a consolidation of logistics functions citing the need for checks and balances in the system that they believe would be diminished by merging disciplines.

Others fear that a unified staff “would be driven by strategic *monism*, the dominance of a single service view or strategic concept when strategic *pluralism* is the appropriate approach for the United States.”¹³ [emphasis in original document] Actually, the checks and balances continue between CINCs and even within the CINCs’ staffs as individuals assigned to their joint billets bring their Service perspective to the table. Additionally, it is fair to say that the Executive Agency (EA) system used currently by DOD, designating one of the Services as the lead agency for a particular program or function, does nothing to ensure pluralism of views. In fact, it lends itself to the potential for monism by its very use.

Of critical importance to the success of JTAV and ultimately DOD logistics is the integration and the sequencing of the myriad of enhancements and advancements required to provide the foundation for its future success. The non-linear nature of the changes in technology, coupled with intricacies of JTAV implementation, the refinement of the DOD logistics business rules, and the development of DOD standard systems cries out for consolidated management and sequencing. A CINCLOG would be in the best position to orchestrate the myriad of activities such an undertaking would require. Because a delay or cancellation of a single element of one program can affect the forward movement of all others, a single agency such as a CINCLOG would have a better chance of containing the negative effects that a single element slippage or cancellation may have on the total logistics system. As inferred by Gen Rutherford in his remarks above, had the

DOD transportation world remained segregated by Service as it was before the formation of USTRANSCOM, chances are fairly good that little progress would have been made in the DOD's strategic mobility capabilities and responsiveness beyond that provided by JDA in the 1980s. From a JTAV perspective, USTRANSCOM has unified disparate Service programs and initiatives in a progressively cohesive manner such that the Joint Transportation CIM Center's business reengineering efforts and GTN's ITV efforts are coming to fruition in the late 1990s.

Notes

¹James K. Matthews and Cora J. Holt, *So Many, So Much, So Far, So Fast: United States Transportation Command and Strategic Deployment for Operation Desert Shield/Desert Storm*, (GPO: 1996), 3-4. Also see USTRANSCOM's homepage at <http://ustcweb.safb.af.mil>, which includes a mission statement for the command which states "...provide air, land, and sea transportation for the DOD both in time of peace and time of war."

²Dr. Don M. Snider, "The US Military in Transition to Jointness: Surmounting Old Notions of Interservice Rivalry," *Airpower Journal* X, no. 3 (Fall, 1996):16-19.

³John Dumond, Rick Eden and John Folkesson, *Velocity Management :An approach for Improving the Responsiveness and Efficiency of Army Logistics Processes*, RAND Documented Briefing MDA903-91-C-0006 (Santa Monica, CA: RAND Corporation, 1995), V.

⁴United States Government Accounting Office, *Best Management Practices: Reengineering the Air Force's Logistics System Can Yield Substantial Savings*, GAO/NSIAD 96-5, a report to the ranking minority member, Subcommittee on Oversight of Government Management and the District of Columbia, Committee on Governmental Affairs, U.S. Senate, February 1996, 34.

⁵The International Institute for Strategic Studies, *Strategic Survey 1995-1996*, (London: Oxford University Press, 1996), 30.

⁶LTG William G. Pagonis, *Moving Mountains: Lessons in Leadership and Logistics from the Gulf War*, (Harvard Business School Press: Boston, MA:1992), 63-158.

⁷FM 100-5, *Operations*, 14 June 1993, 12-4.

⁸United States Naval War College, "Naval Logistics 2005 Wargame Executive Summary," Naval War College, Newport, Rhode Island, 22-25 January 1996: 18, and "Naval Logistics 2005 Wargame Overview and Executive Summary," 69-71.

⁹Commander Benjamin Viellieu, "Theater Logistics C2," briefing to the Joint Logistics Integration Offsite, CASCOC, Ft Lee, Va., 2 -4 December 1996, slide 22.

¹⁰Viellieu, "Theater Logistics C2," slides 23-27. Also see "Naval Logistics 2005 Wargame Overview and Executive Summary," 71-72.

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¹¹General Robert I. Rutherford, *Commander In Chief United States Transportation Command and Commander Air Mobility Command: An Oral History*, (Scott AFB, IL October 1996), 10-11.

¹²Quoted in Lt Col Charles J. Dunlap, Jr., “The Origins of the American Military Coup of 2012,” *Parameters* 22, no. 4 (Winter 1992-93): 8, 17, as stated by John Lehman, “U.S. Defense Policy Options: The 1990s and Beyond,” *The Annals of the American Academy of Political and Social Science*, September 1991.

¹³Mackubin Thomas Owens, “Civilian Control: A National Crisis?,” *Joint Forces Quarterly*, No. 6, (Autumn/Winter 1994-95): 80-83.

Chapter 5

Conclusions

Life is the art of drawing sufficient conclusions from insufficient premises.

—Samuel Butler

As stated earlier in this study, a capability such as JTAV can be many things to many people, but the DOD focus must always remain on the warfighter. When everything is said and done, should deterrence fail the DOD's mission is to fight and win wars. In order to successfully achieve this mission in the future, cohesive direction and focus for the multitudes of logistics efforts is essential.

DOD logistics in today's environment is a joint venture consuming budgets equal to those expended by Fortune 500 companies. The DOD recognizes the need for joint operations on today's battlefield but still segments logistics support, for the most part, by the color of the uniform worn. In reality, logistics lends itself to joint thinking and action.

Macro level logistics commands (i.e., Army Materiel Command and Air Force Logistics Command) are currently buried under privatization and outsourcing and Congressional mandates. Tackling "purple" options at the depots at this point may be too difficult due to the myriad of changes already taking place. However, removing the burden of controlling and coordinating support to the warfighter may have merit.¹

RAND and the other contractors who have assisted the DOD in VM and Lean Logistics efforts maintain a myopic view of the entire DOD logistics picture. To quote RAND, “the challenges the Army faces in the 21st century will require innovative thinking. By working together, Army logisticians can dramatically improve the logistics system to better support Army missions.”² While this is true of the Army, the same can be said for all of the Services. Today’s Army’s logistics challenges are in reality no different than the challenges faced by the Air Force, Navy and Marines.

A GAO report released in 1996 focuses on Air Force shortfalls but is also applicable across the spectrum of logistics Services and Agencies. For the GAO to apply their findings to a single Service, when the same or similar problems exist across all logistics agencies, leads one to believe that there is a general lack of understanding that the Services appear to be broaching the same business reengineering problems with initiatives of different names. GAO recommends “collaboration between the Air Force and other DOD components that would enable the Air Force to achieve an integrated approach to reengineering its process.”³ Unfortunately, the Air Force is not the sole owner of all its processes. GAO might better serve the Congress and DOD if it viewed logistics processes across the DOD spectrum rather than Service by Service. This approach could help foster earlier recognition of and integration between cross-departmental issues.

It is time that the DOD and oversight agencies such as the GAO recognize that logistics is joint. DOD should take action to modify Title 10 to accommodate the formation of the JLMC for control and oversight of theater-level operational logistics.

Additionally, consideration should be given to creating a CINCLOG to provide focus and take control of macro logistics within the DOD.

Consideration should be given to reassess DLA's role. Perhaps DLA should be rehattd as a CINC. Another option might be to reassess USTRANSCOM as a transportation agency only, and to expand that CINC's role to that of CINCLOG, with responsibility for peacetime and wartime *logistics* vice just *transportation*. This statement is in no way meant to demean the importance of USTRANSCOM's mission. Rather, it is recognition that transportation is one of several logistics functions, and a case could be made to incorporate this function into one logistics organization. The potential improvements to be realized from merging logistics initiatives under the leadership of an operationally-oriented organization has tremendous implications for the industrial base and the Nation's national security posture.

A CINCLOG would be in the best position to integrate (1) the efforts of OSD in revising business rules with (2) the integration of systems offered by the JTAV office with (3) the talents offered by the individual Services and the other organizations involved in defense logistics. Balancing the fluidity of the JTAV effort with the myriad of changes to the supporting business rules will be an ongoing struggle for the foreseeable future. Coordinating the non-linear changes in technological implementation, such as managing slowness in one element that may affect forward movement in a myriad of other elements, requires a well-orchestrated plan. Lack of a single responsible agency dilutes the efforts of all and subjects us to scrutiny in Congress. This author believes time is wasting. If providing focused and effective operational logistics to the warfighting CINCs in time of peace, crisis, and war, and maximizing the potential of the

infrastructure available to us are truly DOD goals, then DOD operational and business logistics in the next century demand a CINCLOG.

Notes

¹General Henry Viccellio, Jr., commander, Air Force Material Command, “Our Air Force and AFMC,” address to the Air War College, Maxwell Air Force Base, AL, 22 January 1997.

²John Folkeson, Rick Eden, and John Dumond, “Draft Velocity Management Pilot Implementation Plan,” RAND DRR-983-1-A (Santa Monica, CA.: RAND Corporation, June 1995), foreword.

³United States Government Accounting Office, *Best Management Practices: Reengineering the Air Force’s Logistics System Can Yield Substantial Savings*, GAO/NSIAD 96-5, a report to the ranking minority member, Subcommittee on Oversight of Government Management and the District of Columbia, Committee on Governmental Affairs, U.S. Senate, February 1996, 6.

Chapter 6

Recommendations for Further Study

The following topics are recommended for future study:

1. AIT standardization within DOD
2. CINCLOG and Title 10 implications
3. JTAV and infowar implications
4. DISA as the lead agent for all systems integration efforts
5. Revising logistics doctrine should reorganizations become reality as a result of JTAV

Appendix A

Survey Questionnaire

This section provides the survey questionnaire used to interview personnel about JTAV. Note: These questions were posed when doctrine for JTAV was the focus of this study.

1. How does TAV allow the commander to do things differently?
2. How far into the chain of command does visibility need to reach?
3. How can TAV best be used as an enabler? Is it a force multiplier?
4. Is AIT critical to the success of TAV? If yes, what are the limiting factors and constraints? Do we need a single AIT concept to be successful?
5. Does current US planning assume that logistics systems and networks will remain immune from attack?
6. What is our fallback position should we lose several servers providing data?
7. How do we plan to address allied information in the system? Are there planned interfaces for host nation support situations (food, fuel, parts, cross-servicing, etc.).
8. Is TAV a command and control capability or a business system issue? If any part of TAV is C2, should the entire effort fall under the C2 arena? Does TAV fall under the responsibilities of a Service to supply, train and equip, or is it a warfighter initiative that should be handled by the Joint Staff of in the joint community?
9. Is TAV an implementing tool for Lean logistics, Velocity Management, and Battlefield Distribution? What is the effect on these programs without TAV?
10. How do you see TAV supporting the Joint Vision 2010 idea of focused logistics?
11. Do you see TAV facilitating the advancement of the “general” logistician (in the AF)? Do you foresee unrealistic expectations of the terminal operator from a management perspective (as happened with JOPES)? Does the system require any special operator training?
12. ICP-AIS follows DRMS inventory. DRMS is supposed to be outsourced. Is compatibility with TAV part of the DRMS outsourcing statement of work? How can these types of actions (3rd party logistics, outsourcing, etc.) be institutionalized and captured in doctrine?

13. Do the IMMs have visibility into the industrial base for asset visibility purposes?
14. Are there any implementation plans for the JPAV and medical portions of TAV?
What are their underlying principles?
15. Do you have any recommendations for further studies?

Appendix B

OSD JTAV Office Personnel

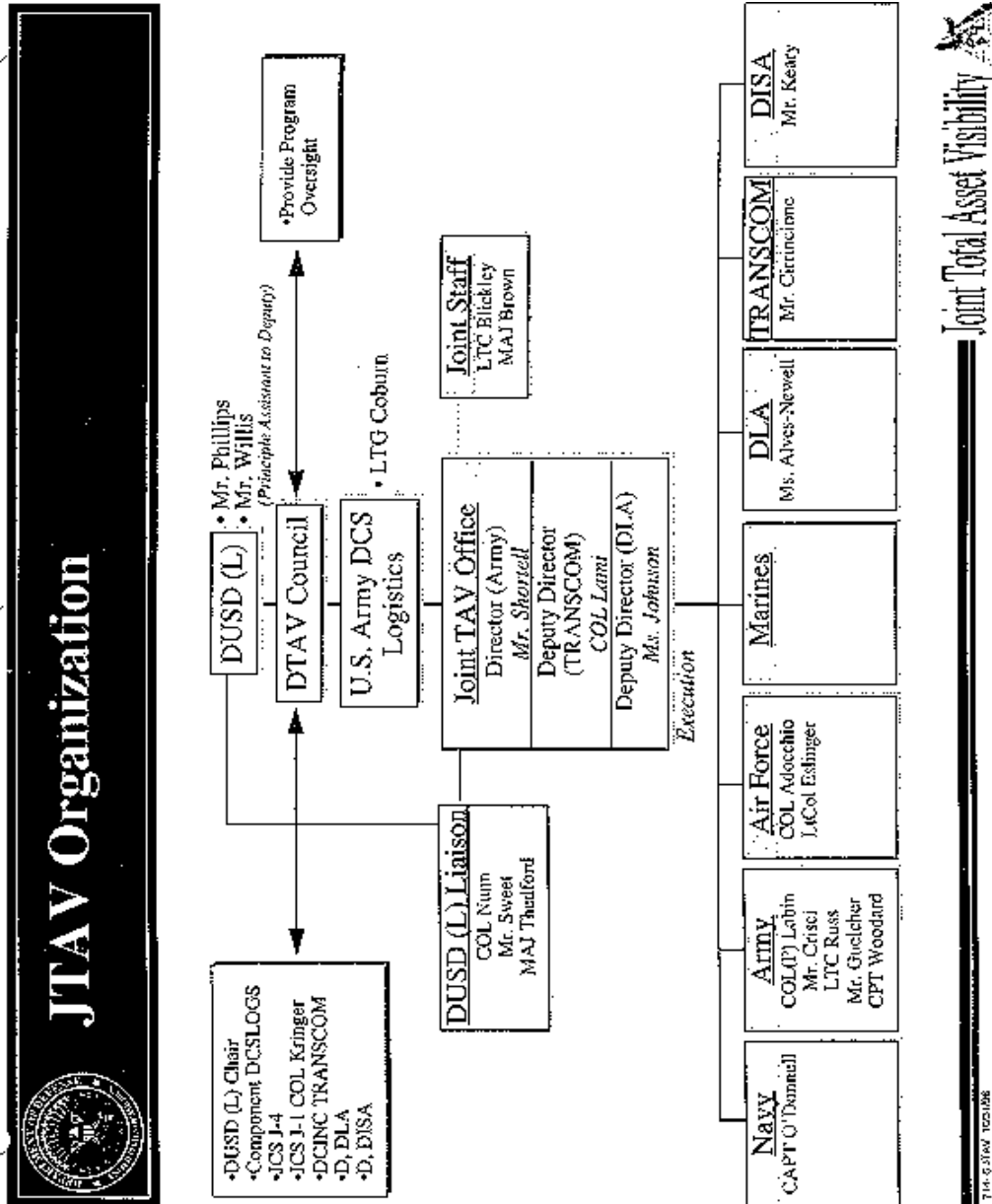


Figure 7. OSD/JTAV Organization

Glossary

AIT	Automatic Identification Technology
C2	Command and Control
CAPS II	Consolidated Aerial Port System II
CASCOM	Combat Arms Support Command
CFM	Consolidated Freight Management
DAAS	Defense Automated Addressing System
DAMMS-R	Department of the Army Materiel Management System -Redesign
GCCS	Global Command and Control System
GCSS	Global Command Support System
ITV	In Transit Visibility
JTAV	Joint Total Asset Visibility
JTF	Joint Task Force
JTTP	Joint Tactics, Techniques and Procedures
LIA	Logistics Integration Agency
RDBMS	Relational Database Management System
TCACCIS	Transportation Coordinator's Automated Command and Control Information System
TCAIMS-II	Transportation Coordinator's Automated Information for Movement System II
USAF	United States Air Force

logistics. The science of planning and carrying out the movement and maintenance of forces. In its most comprehensive sense, those aspects of military operations that deal with design and development, acquisition, storage, movement, distribution, maintenance, evacuation, and disposition of materiel; movement , evacuation, and hospitalization of personnel; acquisition or construction, maintenance, operation, and disposition of facilities; and acquisition or furnishing of services. (JCS Pub 1-02)

traffic management. The direction, control, and supervision of all functions incident to the procurement and use of freight and passenger transportation services. (JCS Pub 1-02)

common user transportation or lift. US Transportation Command—controlled lift: The pool of strategic transportation assets either government owned or chartered that are under the operational control of Air Mobility Command, Military Sealift Command, or Military Traffic Management Command for the purpose of providing common—user transportation to the Department of Defense across the range of military operations. These assets range from common-user organic or chartered pool of common-user assets available day-to-day to a larger pool of common-user assets phased in from other resources. (JCS Pub 1-02)

requisitioning objective. The maximum quantities of materiel to be maintained on hand and on order to sustain current operations. It will consist of the sum of stocks represented by the operating level, safety level, and the order and shipping time or procurement lead time, as appropriate. (JCS Pub 1-02)

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